

CLAIMS:

1. A method of making a hydrocarbon oil dispersion of a solid procatalyst composition for use in a Ziegler-Natta olefin polymerization catalyst composition, said method comprising:
- 5 contacting a solid precursor composition comprising magnesium, titanium, and alkoxide moieties with a halogenating agent and an internal electron donor in any order, in a suitable reaction medium to prepare a solid procatalyst composition by halogen exchange;
- 10 separating the solid procatalyst composition from the reaction medium;
- optionally further halogenating the solid procatalyst composition, exchanging the procatalyst composition under metathesis conditions, substituting metal values in the procatalyst composition, and/or extracting the procatalyst composition;
- rinsing the procatalyst composition with liquid rinse diluent to remove at least a portion of by-products and/or unreacted halogenating agent;
- 15 separating the procatalyst composition from the liquid rinse diluent to provide a solid mass containing residual liquid rinse diluent;
- partially drying the solid procatalyst composition to provide a mass having a residual liquid rinse diluent content of from 7 to 25 percent; and
- dispersing the partially dried, solid precursor composition in a hydrocarbon oil.
- 20 2. The method of claim 1 wherein the internal electron donor is a C₁₋₄ alkyl ester of an aromatic monocarboxylic or dicarboxylic acid, or a C₁₋₄ alkyl ether derivative thereof.
3. The method of claim 2 wherein the internal electron donor is ethylbenzoate, ethyl p-ethoxybenzoate, di-n-butylphthalate, or diisobutylphthalate.
4. The method of claim 1 wherein the rinse diluent is an aliphatic hydrocarbon.
- 25 5. The method of claim 1 wherein the rinse diluent is partially removed under flowing nitrogen at an initial inlet temperature from 0 to 50°C for a time from 1 to 60 minutes.
6. The method of claim 1 wherein the retained, oversized solids upon sieving the hydrocarbon dispersion through a 35 mesh (0.5 mm x 0.5 mm opening size) screen is 5.0 percent or less on a dry solids basis.
- 30 7. The method of claim 1 wherein the amount of residual liquid rinse diluent in the partially dried procatalyst that is dispersed in the hydrocarbon oil is from 10 to 20 percent.